

Claims

What is claimed is:

1. A mobile jaw crusher assembly for crushing objects, comprising:
 - a frame configured for attachment to a vehicle capable of moving said mobile jaw crusher assembly and at least partially rotating said mobile jaw crusher assembly;
 - 5 an eccentric shaft rotationally mounted to said frame;
 - a driving mechanism configured and disposed for driving said eccentric shaft to rotate said eccentric shaft;
 - a first crushing member engaging said eccentric shaft and moving in response to rotation of said eccentric shaft;
 - 10 a second crushing member facing said first crushing member, said first and second crushing members defining a holding chamber for holding objects and defining a crushing chamber for crushing objects; and
 - a guard configured to be selectively positioned to block an inlet opening of said frame and prevent at least some objects from exiting said frame through said inlet opening of said frame.
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2. The mobile jaw crusher assembly of claim 1, wherein said guard has a hinge configured to allow said guard to pivot with respect to the vehicle.
3. The mobile jaw crusher assembly of claim 1, wherein said guard has a support member configured for rigid attachment to the vehicle.
4. The mobile jaw crusher assembly of claim 1, wherein said guard has a support frame that supports an elastomeric dampener, said elastomeric dampener configured for dampening noise associated with the crushing of objects.
5. The mobile jaw crusher assembly of claim 1, wherein said guard has a pair of clevises, each said clevis having a pivot pin configured to allow said guard to pivot with respect to the vehicle.

6. The mobile jaw crusher assembly of claim 1, wherein said guard has at least one cable configured for attachment to the vehicle for supporting said guard when said guard is not blocking said inlet opening of said frame.

7. The mobile jaw crusher assembly of claim 1, wherein said guard has a pair of cables attached thereto, one said cable being connected to each of a pair of guard cable connection members, and wherein said guard has a single vehicle cable connection member attached to said pair of cables and configured for attachment to the vehicle, wherein said cables support said guard.

8. The mobile jaw crusher assembly of claim 7, wherein said pair of cables are one single cable.

9. The mobile jaw crusher assembly of claim 1, wherein said guard has an elastomeric dampener forming a plurality of curtains and cross-curtains arranged in a crisscross configuration.

10. The mobile jaw crusher assembly of claim 1, further comprising a spray jet attached to said frame, said spray jet configured for spraying water proximate to an outlet opening of said frame for suppression of dust brought about by the crushing of objects.

11. The mobile jaw crusher assembly of claim 1, further comprising:
a water tank configured for attachment to the vehicle;
at least one spray jet attached to said frame proximate to an outlet opening of said frame;

5 a water line placing said water tank into fluid communication with said spray jet; and

a water pump in fluid communication with said water line and configured for forcing water through said water line and out of said spray jet in order to suppress dust brought about by the crushing of objects.

12. The mobile jaw crusher assembly of claim 1, further comprising a hydraulic cylinder configured for attachment to the vehicle and engaging said guard, said hydraulic cylinder configured for selectively positioning said guard to block said inlet opening of said frame.

13. The mobile jaw crusher assembly of claim 1, wherein said guard has a closed top face and three adjacent closed side faces defining a depth of said guard, said guard having an open bottom face for receiving objects therein to be blocked by said guard, said guard having a fourth side face openable by said frame.

14. The mobile jaw crusher assembly of claim 1, wherein said guard is configured for at least momentarily conforming to the shape of objects protruding from said inlet opening of said frame.

15. A mobile jaw crusher assembly for crushing objects, comprising:
a frame configured to be attached to a vehicle, said frame having an inlet opening;

5 a first crushing member housed in said frame and configured to be moved and at least partially rotated by a vehicle along with said frame;

a second crushing member housed in said frame and facing said first crushing member, said first and second crushing members defining a crushing chamber for crushing objects, said second crushing member configured to be moved and at least partially rotated by the vehicle along with said frame; and

10 a guard configured to be selectively positioned to block said inlet opening of said frame and prevent at least some objects from exiting said frame through said inlet opening.

16. A mobile jaw crusher assembly of claim 15, wherein said guard has a hinge configured to allow said guard to pivot with respect to the vehicle.

17. The mobile jaw crusher assembly of claim 15, wherein said guard has a support member configured for rigid attachment to the vehicle.

18. The mobile jaw crusher assembly of claim 15, wherein said guard has an elastomeric dampener and defines a support frame that supports said elastomeric dampener.

19. The mobile jaw crusher assembly of claim 15, wherein said guard has a pair of clevises, each said clevis having a pivot pin configured to allow said guard to pivot with respect to the vehicle.

20. The mobile jaw crusher assembly of claim 15, wherein said guard has at least one cable configured for attachment to the vehicle for supporting said guard.

21. The mobile jaw crusher assembly of claim 15, wherein said guard has an elastomeric dampener forming a plurality of curtains and cross-curtains arranged in a crisscross configuration.

22. The mobile jaw crusher assembly of claim 15, further comprising a spray jet attached to said frame.

23. The mobile jaw crusher assembly of claim 15, further comprising:
a water tank configured for attachment to the vehicle;
at least one spray jet attached to said frame;
a water line placing said water tank into fluid communication with said spray
jet; and
a water pump in fluid communication with said water line and configured for forcing water through said water line and out of said spray jet.

24. The mobile jaw crusher assembly of claim 15, further comprising a hydraulic cylinder engaging said guard and used for selectively positioning said guard.

25. The mobile jaw crusher assembly of claim 15, wherein said guard has a closed top face and three adjacent closed side faces defining a depth of said guard, said guard having an open bottom face for receiving objects therein to be

blocked by said guard, said guard having a fourth side face openable by said frame.

26. The mobile jaw crusher assembly of claim 15, wherein said guard is configured for at least momentarily conforming to the shape of objects protruding from said inlet opening of said frame.

27. A mobile jaw crusher assembly for crushing objects, comprising:
a frame configured to be attached to a vehicle;
a first crushing member housed in said frame and configured to be moved and at least partially rotated by a vehicle along with said frame;

5 a second crushing member housed in said frame and facing said first crushing member, said first and second crushing members defining a crushing chamber for crushing objects, said second crushing member configured to be moved in and at least partially rotated by the vehicle along with said frame; and
10 at least one spray jet attached to said frame, said spray jet configured for spraying fluid to suppress dust brought about by the crushing of objects.

28. The mobile jaw crusher assembly of claim 27, further comprising:
a water tank configured for attachment to the vehicle;
a water line placing said water tank into fluid communication with said spray jet; and

5 a water pump in fluid communication with said water line and configured for forcing water through said water line and out of said spray jet.

29. A mobile jaw crusher assembly for crushing objects, comprising:
a vehicle being an excavator and having a source of hydraulic power;
a frame pivotally attached to said excavator and having an inlet opening;
an eccentric shaft rotationally mounted to said frame;
5 a driving mechanism connected to said eccentric shaft and capable of driving said eccentric shaft in order to rotate said eccentric shaft, said driving mechanism being powered by said source of hydraulic power from said excavator;
a shaft housing engaging said eccentric shaft;

10 a first crushing member engaging said eccentric shaft through said shaft housing, said first crushing member moving in response to rotation of said eccentric shaft;

a second crushing member facing said first crushing member, said first and second crushing members defining a holding chamber and a crushing chamber;

15 wherein said excavator is propelled and said frame is pivoted so as to capture objects into said holding area and said cylinder rotates said frame and said lift mechanism lifts said frame, wherein objects in said crushing chamber are crushed by said first and second crushing members and are discharged from said frame into a stock pile of saleable product by a single pass through said holding chamber and said crushing chamber; and

20 a guard configured to be selectively positioned to block said inlet opening of said frame and prevent at least some objects from exiting said frame through said inlet opening.

30. A mobile jaw crusher assembly for crushing objects, comprising:

a frame having an inlet for objects to enter and an outlet for crushed objects to exit;

5 an eccentric shaft located within said frame and rotatable with respect to said frame;

a first crushing member disposed within said frame and in communication with said eccentric shaft;

10 a second crushing member located in said frame and facing said first crushing member toward such that rotation of said eccentric shaft causing cyclic movement of said first crushing member and away from said second crushing member;

a driving mechanism attached to said frame, said driving mechanism rotating said eccentric shaft;

15 a connection member attached to said frame, said connection member being attached to a vehicle; and

a guard configured to be selectively positioned to block said inlet of said frame and prevent at least some objects from exiting said frame through said inlet.